

What is claimed is:

1. A system in a customer premises comprising:

at least one local power unit coupled to an electrically-conductive line;
and

- 5 a power-feeding unit coupled to said line, said power-feeding unit adapted to provide power over said line to said at least one local power unit without disturbing operation of an exchange coupled to said line.

2. The system of claim 1, wherein said line is an internal telephone line.

3. The system of claim 1, wherein said line is an internal cable.

- 10 4. The system of claim 1, wherein said exchange is a private branch exchange.

5. The system of claim 1, wherein said exchange is a central office.

6. The system of claim 1, wherein said power-feeding unit comprises:

an alternating current power supply; and

a control unit coupled to said alternating current power supply.

- 15 7. The system of claim 1, wherein said power-feeding unit comprises:

a line state detector; and

a switch adapted to couple one of an alternating current power supply and a direct current power supply to said line according to a specific line state detected by said line state detector.

- 20 8. The system of claim 7, wherein said power-feeding unit further comprises a polarity detector and said direct current power supply is adapted to supply power to said line according to a polarity detected by said polarity detector.

9. The system of claim 7, wherein said power-feeding unit further comprises a voltage detector, a ring detector and a speech detector.

10. The system of claim 1, wherein said at least one local power unit is integrated into a current-consuming device.
11. A power-feeding unit adapted to provide power over an electrically conductive line by feeding alternate current or direct current to said line without disturbing
5 operation of an exchange coupled to said line.
12. The power-feeding unit of claim 11, wherein said line is an internal telephone line.
13. The power-feeding unit of claim 11, wherein said line is an internal cable.
14. A method comprising:
10 providing power over an internal telephone line without disturbing operation of an exchange coupled to said internal telephone line.
15. The method of claim 14, wherein said providing comprises:
supplying alternating current over said internal telephone line when said internal telephone line is on hook; and
15 supplying only direct current over said internal telephone line when said internal telephone line is off hook.
16. The method of claim 15 further comprising:
supplying at most an additional alternating current to alternating current arriving from said exchange when said exchange is generating a ring
20 signal on said internal telephone line.
17. A method comprising:
reflecting high DC resistance to an internal telephone line when said internal telephone line is on hook or when an exchange is generating a ring signal on said internal telephone line; and

reflecting high AC impedance to said internal telephone line when said internal telephone line is off hook.

18. A method comprising:

providing power over an electrically conductive line by feeding
5 alternate current or direct current to said line without disturbing operation of an exchange coupled to said line.

19. The method of claim 18, wherein said line is an internal telephone line.

20. The method of claim 18, wherein said line is an internal cable.